

Health Care, Level I •

ACE

Introduction

About This Guide

The *Assessments in Career Education (ACE) Guide for Teachers* has been developed to provide essential information and preparation guidelines for teachers. The intent of the guide is to serve as an instructional aid in the classroom. The guide is divided into seven sections:

Test Content — describes the content of the test.

Test Structure — describes the general format of the test.

Test Preparation — includes strategies for preparing students for taking an ACE examination, including written-response questions.

Achievement Levels — describes the six different levels of achievement.

Sample Questions — includes sample multiple-choice questions and a sample written-response question.

General Scoring Criteria — shows the general criteria used to develop specific scoring guides for written-response questions.

Sample Student Work — includes examples of student work for the sample written-response question at different score points with commentary.

Teachers are encouraged to reproduce portions or all of the guide for classroom use.

Student Eligibility

The ACE in Health Care, Level 1 may be taken by a student only one time. For this reason, it is important for students to take the examination when they are fully prepared. Prior to taking the examination, students should complete the appropriate coursework that provides instruction in all of the standards covered by the examination.

Test Content and Structure

Test Content

The ACE in Health Care, Level I is based upon the knowledge and skills defined in the *Draft Interim Content and Performance Standards of the Superintendent's Challenge Initiative for Health Careers Education, Grade 11, Preparing to Work in Health Care, Level I Career Path Cluster*. These standards, as summarized below, share a substantial amount of content with the standards presented in *Health Careers Education 2000: A Program Guide*.

The content of this examination covers:

- the interrelationship of health care needs, funding, staffing, and regulation practice to the quality of service provided
- the principles of human body system structure and function in relation to human growth and development
- the principles of asepsis, body mechanics, and protective safety measures related to exposure to infection, hazardous and biomedical waste and materials, behavioral problems, and fire and disaster
- the legal constraints, professional codes, and ethical considerations affecting health delivery systems
- prevention of disease processes for the maintenance of optimum health

Test Structure

The ACE in Health Care, Level I is administered in two 45-minute sessions. Each session consists of multiple-choice questions and a written-response question.

The purpose of the multiple-choice questions is to assess students' knowledge in health care. The multiple-choice questions vary in complexity. Some require students to apply concepts to solve problems. This portion of the examination is machine scored. Sample questions are provided on page 6.

The written-response questions are designed to measure students' application of skills and knowledge. Students respond in writing to questions about career-related situations. The written-response questions are scored by health care teachers and other professionals in the career area. Students are awarded a score point from one to four for each question, with four being the highest score. The sample multiple-choice and written-response questions, general scoring criteria, and sample student work and commentary are provided on pages 6–11.

Resource Documents

Copies of the *Draft Interim Content and Performance Standards of the Superintendent's Challenge Initiative for Health Careers Education, Grade 11, Preparing to Work in Health Care Level I Career Path Cluster* are available at <http://www.cde.ca.gov/challenge> on the Internet.

Copies of *Health Careers Education 2000: A Program Guide* are available from the Publications Division, Sales Unit, California Department of Education, P.O. Box 271, Sacramento, CA 95812-0271 or by fax at (916) 323-0823.

Test Preparation

Students should have a firm foundation in the essential skills needed for success in the career area tested. Sound preparation for ACE is built on classroom assignments that allow students to use and test their skills and knowledge regularly.

Students preparing for the examinations need to be able to articulate the major concepts in the career area being assessed. They must be able to analyze information, apply knowledge, solve problems, and explain their solutions.

Preparing Students for Written Response Questions

Using the sample written-response question in this guide (page 6):

- discuss the wording of the sample written-response question. Help students to identify and understand the key requirements of the question (i.e., what is being asked?).
- review the general scoring criteria (page 7) with students. This will help students better understand what is expected of them.
- discuss the student work samples. Focus on the differences between the score points.

In addition:

- plan a variety of classroom activities that require students to interpret, think through, and answer written-response questions. For example:
 - define and explain terms that are common in written-response questions (e.g., “in detail,” “fully,” “list” vs. “describe” vs. “explain”).
 - model processes for “thinking through” and outlining answers to written-response questions.
 - model processes for incorporating details into answers to written-response questions.
- provide students with many opportunities to practice writing (e.g., through homework assignments, in-class projects, and classroom assessments).
- involve students in developing written-response questions and scoring guides related to content covered in your curriculum.

- have students evaluate their own answers to written-response questions, as well as the answers of their peers, using a scoring guide. Encourage students to discuss strategies for improving their own and others’ work.
- allow students to revise/improve their answers to written-response questions, based on your feedback and/or the feedback of their peers.

As an instructor:

- when you help prepare your students for the written portion of the ACE examination, you are also helping them to become better writers.
 - keep in mind that you can effectively impact your students’ writing as you engage them in writing about real-world activities.
 - resources at your school that are available to help enhance your students’ writing skills include:
 - the *English-Language Arts Content Standards for California Public Schools* adopted by the California State Board of Education (<http://www.cde.ca.gov/board/standards.html>), in particular, the sections entitled “Writing” and “Writing and Oral English Language Conventions.”
 - any writing initiatives currently being implemented at your high school.
 - the language arts and English language learner instructors at your high school and/or in your career cluster.
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Test-taking Strategies

Several test-taking strategies may be helpful to students during an ACE examination.

When answering multiple-choice questions, students should:

- read the directions carefully.
- generate their own idea of the most accurate answer to a question before selecting from the answers provided.
- pace themselves by considering the number of questions and the time allowed.

When answering written-response questions, students should:

- read and understand all parts of the question.
 - underline the key requirements of the question.
 - think quickly of the main ideas that will serve as a framework for their response.
 - briefly outline the main ideas in a logical sequence before responding.
 - respond to all parts of the question.
 - provide accurate, clear, and detailed examples that demonstrate their knowledge of the career-area topic covered.
 - check their work when finished to make sure they have responded to all required components of the question.
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Achievement Levels

Scores from the multiple-choice and written-response portions of the examination are combined to produce the student's overall achievement level. There are six achievement levels. Students who achieve level six are

awarded high honors; those who achieve level five are awarded honors; and those who achieve level four are awarded recognition. Students who achieve level three or below are acknowledged for their participation.

Level 6

The student has demonstrated excellent knowledge, understanding, and application of the content and concepts of Health Care, Level 1. The responses:

- show exceptional knowledge of aspects of modern health care, including human growth and development, disease prevention, and optimum health maintenance.*
- show excellent understanding of safety, ethical considerations and legal responsibilities, and relationships of various health care systems.
- demonstrate excellent use of problem-solving and critical-thinking skills in modern health care contexts.
- show excellent understanding of the communication and career-planning skills necessary for success in tomorrow's work force in health care.

Level 5

The student has demonstrated strong knowledge, understanding, and application of the content and concepts of Health Care, Level 1. The responses:

- show extensive knowledge of aspects of modern health care, including human growth and development, disease prevention, and optimum health maintenance.*
- show strong understanding of safety, ethical considerations and legal responsibilities, and relationships of various health care systems.
- demonstrate very good use of problem-solving and critical-thinking skills in modern health care contexts.
- show substantial understanding of the communication and career-planning skills necessary for success in tomorrow's work force in health care.

Level 4

The student has demonstrated solid knowledge, understanding, and application of the content and concepts of Health Care, Level 1. The responses:

- show solid knowledge of aspects of modern health care, including human growth and development, disease prevention, and optimum health maintenance.*
- show good understanding of safety, ethical considerations and legal responsibilities, and relationships of various health care systems.
- demonstrate good use of problem-solving and critical-thinking skills in modern health care contexts.
- show good understanding of the communication and career-planning skills necessary for success in tomorrow's work force in health care.

Level 3

The student has demonstrated basic knowledge, understanding, and application of the content and concepts of Health Care, Level 1. The responses:

- show basic knowledge of aspects of modern health care, including human growth and development, disease prevention, and optimum health maintenance.*
 - show basic understanding of safety, ethical considerations and legal responsibilities, and relationships of various health care systems.
 - demonstrate some use of problem-solving and critical-thinking skills in modern health care contexts.
 - show basic understanding of the communication and career-planning skills necessary for success in tomorrow's work force in health care.
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Level 2

The student has demonstrated limited knowledge, understanding, and application of the content and concepts of Health Care, Level 1. The responses:

- show limited knowledge of aspects of modern health care, including human growth and development, disease prevention, and optimum health maintenance.*
- show incomplete understanding of safety, ethical considerations and legal responsibilities, and relationships of various health care systems.
- demonstrate limited use of problem-solving and critical-thinking skills in modern health care contexts.
- show incomplete understanding of the communication and career-planning skills necessary for success in tomorrow's work force in health care.

Level 1

The student has demonstrated little or no knowledge, understanding, and application of the content and concepts of Health Care, Level 1. The responses:

- show little or no knowledge of aspects of modern health care, including human growth and development, disease prevention, and optimum health maintenance.*
- show little or no understanding of safety, ethical considerations and legal responsibilities, and relationships of various health care systems.
- demonstrate little or no use of problem-solving and critical-thinking skills in modern health care contexts.
- show little or no understanding of the communication and career-planning skills necessary for success in tomorrow's work force in health care.

* A detailed description of the content covered by the ACE in Health Care, Level 1 can be found on page 1.

Sample Test Questions

Sample Multiple-choice Questions

1. Hypertension affects which body system the most?
 - A. nervous
 - B. endocrine
 - C. circulatory
 - D. lymphatic
2. Under the guidelines of “universal precautions,” gloves should always be worn by health care workers to avoid
 - A. possible contact with any body fluid.
 - B. spread of germs under fingernails.
 - C. spread of skin diseases.
 - D. offending the patient.

ANSWER KEY: 1. C 2. A

Sample Written-response Question

During the aging process, many changes occur in each of the body’s systems.

- Select **two** body systems and give **two** specific examples of how the aging process may affect each system.
- Explain how each of these changes affects a person’s ability to perform activities of daily living.

What Students Are Expected to Accomplish

This written-response question is designed to assess students’ general knowledge of growth and development as these relate to specific body systems and the aging process. Students are expected to identify two body systems (not organs within body systems) and to describe at least two aging-related changes for each system. In addition, students must explain how

each change they describe can affect a person’s ability to carry out activities of daily living. (NOTE: Students who identify organs within body systems without naming the entire system can receive a score point no higher than a two.) Additionally, responses are expected to be well organized and clearly and effectively written.

General Scoring Criteria for Written-response Questions and Problem-solving Tasks

The general criteria for each score point are outlined below. These criteria are used to develop scoring

guides that address the specific content in each written-response question or problem-solving task.

Score Point 4

Student response shows **excellent** knowledge and understanding. The response:

- completes all components of the question correctly.
- demonstrates in-depth understanding of relevant concepts.
- conveys knowledge coherently and effectively.

Score Point 2

Student response shows **partial** knowledge and understanding. The response:

- completes some important components of the question correctly.
- overlooks or misunderstands relevant concepts.
- conveys knowledge in a manner that may lack clarity.

Score Point 3

Student response shows **substantial** knowledge and understanding. The response:

- completes all or most components of the question correctly.
- demonstrates understanding of relevant concepts; may overlook or misunderstand less important ideas.
- conveys knowledge clearly.

Score Point 1

Student response shows **little or no** knowledge and understanding. The response:

- attempts to address important component(s) of the question but may do so incorrectly.
 - demonstrates little or no understanding of relevant concepts.
 - conveys knowledge in a manner that may lack clarity or focus or may impede understanding.
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Sample Student Work

Score Point 4

Two of the major body systems that are affected through the aging process are the skeletal system and the muscular system. When you're born and throughout your childhood, your bones tend to be soft and flexible. When you're a teenager, your bones become stronger and less flexible. When you become old the bone tissues either deteriorate or become hard. Skeletal system changes in old age depend on your nutritional balance and the activities you engaged in earlier in life. When you have problems like arthritis or any bone disease, the number of activities you are able to do decreases. You have a tougher time moving or bending body parts. Bones become more fragile so they break more easily preventing you from playing physical sports. A fall can easily break bones in half. If you have arthritis in your hands, you cannot sit at a computer and type or write a long letter. As you get older you have to be more careful with everyday activities.

The muscular system is different from the skeletal system. A baby does not develop muscle right away. In the teen years, you have to work out to build muscle or it becomes flabby. Muscles will not stay with you long, if you don't keep up with good nutrition and exercise. As you age, you're not able to get muscle back quickly. Muscle will deteriorate or soften. When that happens, you are not able to lift heavy objects, you have trouble getting out of bed, and you can't perform other activities that involve using your muscles. Skin tends to sag as you get older but if you have muscle, it can hold your skin and make it look firm. When you have strength and look good, you will be more likely to want to go out and do things. When you have less muscle, you just want to sit or sleep and not move at all.

Commentary

The response correctly identifies two human body systems (i.e., skeletal and muscular) and provides at least two examples of aging-related changes for each system (i.e., bone deterioration, hard/brittle bones, bone disease, and arthritis for the skeletal system; muscle deterioration and increased sagging of the skin if muscle tone is not maintained for the muscular system). The response explains how each of the changes in the skeletal and muscular systems can affect activities of daily living. For example, the development of arthritis or bone disease can result in having a more difficult time moving body parts, an inability to type on a computer or write a long letter, bones that break easily, and limited engagement in physical sports respectively. Weaker muscles can result in difficulty lifting heavy objects and getting out of bed. The knowledge is conveyed coherently and effectively and demonstrates excellent understanding of growth and development as they relate to specific body systems and the aging process.

Sample Student Work

Score Point 3

When a person ages certain systems in the body start to change. They start to slow down. For example the nervous system slows down so their responses aren't as quick as when they were young. It makes it to where it takes the person twice as long as you and I to eat or it may take the person twice as long to walk from one place to another. Their neurons aren't traveling as quickly as before. It takes it twice as long to get to the brain and back. It may slow down the way they talk or react to you when you speak to them. It will make it harder and longer for the person to brush their teeth, brush their hair, and take showers. They may start to need assistance with all those items of daily living.

Another system that changes is the musculatory system. This system starts to become weaker as the body starts to slow down. There is no way to keep the muscles exercised and as strong as in their younger years. So it will be harder for them to hold up their own wieght. Also it would be harder for them to pick up things. If they were to fall then it would be hard to get back up. Sometimes they can't get up at all. So then they need to start getting help w/trying to strengthen those muscles or they would need assistance where ever they went if not by wheelchair then by person. There are many ways they can be helped. People can help assist them to the bathroom they can assist them to the wheelchair then they could help themselves. But we still need to let them do as much as they can so that they can still feel good about themselves.

Commentary

The response identifies two human body systems (i.e., nervous and muscular), but provides only one distinct and accurate aging-related change for each system (i.e., an elderly person's responses are not as quick as when they were young; the muscular system is weaker or, in other words, the muscles are not as exercised or strong). To receive a score of four, the response should contain at least two distinct aging-related changes for each body system.

The response explains multiple ways that slower responses and weaker muscles can affect activities of daily living. For example, slower responses can result in a person taking longer to eat, to walk from one place to another, or to talk or respond when spoken to. Weaker muscles can make it difficult for a person to hold up their weight, to stand up straight, to pick things up, or to get up after a fall.

Overall, the response shows substantial understanding of growth and development as they relate to specific body systems and the aging process, though some minor inaccuracies are evident (e.g., the use of the term musculatory for muscular, the notion that neurons themselves travel). The knowledge is conveyed clearly.

Sample Student Work

Score Point 2

Two body systems that change through the aging process are the skin and your brain. Some examples on how your skin changes is you start to get more wrinkles, things start to sag more, you might get spots, hair grows in places it normally doesn't and it may become more dry. Examples on what might happen to your brain are you may become confused, your reactions may become slower, and you can lose your memory.

These changes affect a person's ability to perform their daily activities. For example you may not be able to stay out in the sun as long as you use to because your skin has become sensitive. Or you go to the supermarket and can't remember where you parked your car because you are losing your memory. Your life is going to change as you get older, so your going to have to adjust. Everyone goes through the life cycle of getting old and dying. So we need to learn to except it and not go crazy about getting wrinkles.

Commentary

The response provides specific examples of changes related to aging without specifying actual body systems. For example, the student correctly describes aging-related changes in the integumentary system (e.g., dry skin, sagging, wrinkles, increased hair growth, and age spots). Rather than naming the affected body system, the student identifies an organ within the system, the skin. The response explains how some of the changes described affect activities of daily living. For example, a person may need to limit the amount of time he or she spends in the sun due to increased sensitivity of the skin. While the response demonstrates some understanding of growth and development as they relate to the aging process, there is evidence of a gap in understanding of what is meant by body systems.

Sample Student Work

Score Point 1

The respiratory system is all around the chest area. When you are turning old for example your heart starts to fail or you can get heartburn more. You have lots of breathing problems. The digestive system on the lower area your period if you're a woman you stop getting it. When you turn old most of your body organs fall apart maybe even sometimes literally but say that your urinary area, old people have weak bladders and they have to urinate a lot. When your old your heart can go crazy for anything, that's how they can contract a heart attack. Another reason is you tend to get fat. Your chloesterol goes higher which also causes a heart attack.

Commentary

The response identifies two body systems (respiratory and digestive) and attempts to provide aging-related changes for each system. The changes provided do not relate to the systems identified. For example, the student identifies changes related to menstruation (reproductive system), weak bladders (urinary system), and heart attacks (circulatory system). The student does mention heartburn, which relates to the digestive system, but erroneously connects the condition with the respiratory system. In addition, the student does not discuss how any of the changes affect activities of daily living. The knowledge conveyed lacks clarity and focus and demonstrates minimal knowledge of growth and development as they relate to specific body systems and the aging process.

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Cindy Beck
California Department of Education

Carla Biermann
Tri-Valley Regional
Occupational Program
Alameda County

Edward (Skip) Brown
Health Education and Recreation
Training Academy
Redlands Unified School District
San Bernardino County

Carla Cherry
Kern County Tech Prep Consortium

Cheryl Fraser
Valley Regional Occupational Center
Fresno County

Theresa Giannandrea
Visalia Unified
Tulare County

Janet Gower
Mt. Diablo Unified
Contra Costa County

Kristin Hime Griffin
Riverside County Regional
Occupational Program

Marla Keeth
Pasadena Health Careers Academy
Pasadena Unified
Los Angeles County

Marly Piver
Stockton Unified
San Joaquin County

Mahna Schwager
WestEd

Maureen Sinclair
La Puente Valley Regional
Occupational Program
Los Angeles County

Sharon Thomas
Skyline College, San Bruno
San Mateo County

Carolyn Vogel-Pace
San Bernardino City Unified
San Bernardino County

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Standards and Assessment Division
California Department of Education
721 Capitol Mall, 6th Floor, Sacramento, CA 95814

Mailing Address: P.O. Box 944272, Sacramento, CA 94244-2720

Telephone: (916) 657-3011 Fax: (916) 657-4964

E-mail: star@cde.ca.gov

Web site: <http://www.cde.ca.gov/cilbranch/sca>